

# CURRICULUM VITAE

## NIKOLAOS A. KAMPANIS

**Birthdate:** September 18, 1963.

**Birthplace:** Iraklion, Crete, Hellas

**Citizenship:** Hellenic

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**Languages:** English (fluent), French (fluent), Italian (speaking).

### Education

1986, BS Mathematics, University of Crete, Greece.

1988, MS Applied Mathematics, University of Crete, Greece.

1992, PhD Numerical Analysis, University of Crete, Greece.

### Principal Professional Appointments

Assistant Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 1995-1998.

Associate Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 1998-2004.

Senior Researcher, Institute of Applied and Computational Mathematics, FORTH, Greece, 2004-2011.

Research Director, Institute of Applied and Computational Mathematics, FORTH, Greece, 2012-.

### Other Professional Appointments

Visiting researcher, Project Menusin, INRIA, Rocquencourt, France, 1989.

Visiting research Assistant Applied Acoustics Group, SACLANT URC, La Spezia, Italy, 1991.

Postdoctoral Researcher, Institute of Applied and Computational Mathematics, FORTH, Heraklion, Greece, 1992-94.

Visiting Lecturer, Mathematics Department, Technical University of Crete, Chania, Greece, 1993-94.

Visiting Associate Professor, Applied Mathematics Department, University of Crete, Heraklion, Greece, Fall Semester 2001.

Visiting Associate Professor, Department of Science, Technical University of Crete, Chania, Greece, 2005.

### Research Interests

HPC and numerical modeling, Computational fluid dynamics (applications in hydrodynamics, fluid-solid & air-sea interaction, operational oceanography & meteorology, incompressible biomedical & engineering flows), Data analytics (collection from field observations, processing and archiving of big data & assimilation).

### Scientific activities

Member of the organizing committee of the 3<sup>rd</sup> European Conference on Underwater Acoustics, Heraklion, Greece, 1996.

Organizer of the 4<sup>th</sup> ERCIM Environmental Modeling Group Workshop on Environmental Models and Computational Methods, Heraklion, Greece, 1998.

Guest editor, special issue on Environmental Models and Computational Methods, Vol. 39, No. 1, 2000, of the journal Systems Analysis Modelling Simulation (Gordon and Breach Sci. Publ.).

Session Chairman, 9<sup>th</sup> ERCIM Working Group Environmental Modelling, Workshop, International Environmental Modelling and Software Society (iEMSs) 2002 Conference, University of Lugano, Switzerland, 2002.

Organizer of the 12<sup>th</sup> ERCIM Environmental Modeling Group Workshop on Environmental Modelling: Current trends and developments, Hersonissos, Crete, Greece, May 2004.

Member of the organizing committee of the 9<sup>th</sup> FORTH meeting 2009.

Session Chairman, "Models and measurements for environmental, physiological and engineering flows", 9<sup>th</sup> FORTH meeting, Killini, October 2009.

### Publications

#### A. Scientific journals, Books, Book chapters

- A1. D. D. Ellis, N. A. Kampanis, R. A. Stephen, *Calculations of ocean bottom and sub-bottom backscattering using a time-domain finite-difference code*, Ocean Reverberation, D. D. Ellis, J. R. Preston, H. G. Urban (Eds.), Kluwer Academic Publishers, 1993, 125-130.
- A2. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On Galerkin methods for the wide-angle parabolic equation*, J. Comp. Acoustics 2 (1994), 99-112.
- A3. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *Error estimates for finite element methods for the wide-angle parabolic equation*, Applied Numerical Mathematics 16 (1994), 81-100.
- A4. N. A. Kampanis, *Fast and accurate finite element methods for the numerical prediction of the acoustic field*, Full Field Inversion Methods in Ocean and Seismo-Acoustics, O. Diachok, A. Caiti, P. Gerstoft, H. Schmidt (Eds.), Kluwer Academic Publishers, 1995, 21-26.
- A5. V. A. Dougalis, N. A. Kampanis, *Finite element methods for the parabolic equation with interfaces*, J. Comp. Acoustics 4 (1996), 55-88.
- A6. J. S. Papadakis, V. A. Dougalis, N. A. Kampanis, E. T. Flouri, B. Pelloni, A. Plaisant, E. Noutary, L. Bjorno, P. Nielsen, D. Zhu, *Ocean acoustic models for low frequency propagation in 2D and 3D environments*, ACUSTICA-acta acustica 84 (1998), 1031--1041.
- A7. N. A. Kampanis, E. T. Flouri, *On an energy-conserving treatment of variable interfaces in a finite difference PE code*, ACUSTICA-acta acustica 85 (1999), 18--23.
- A8. N. A. Kampanis, V. A. Dougalis, *A finite element code for the numerical solution of the Helmholtz equation in axially symmetric waveguides with interfaces*, J. Comp. Acoustics 7 (1999), 83-110.
- A9. J. A. Ekaterinaris, N. A. Kampanis, *A numerical prediction of acoustic fields generated by wind turbines*, Systems Analysis Modelling Simulation 39 (2000), 49-74.
- A10. N. A. Kampanis, J. A. Ekaterinaris, *Numerical prediction of far-field wind turbine noise over terrain of moderate complexity*, Systems Analysis Modelling Simulation 41 (2001), 107-122.
- A11. N. A. Kampanis, *Numerical simulation of low-frequency aeroacoustics over irregular terrain using a finite element discretization of the parabolic equation*, J. Comp. Acoustics 10, No 1, (2002), 97-112.
- A12. N. A. Kampanis, E. T. Flouri, *A GIS interfaced numerical model for the simulation of sound propagation in the atmosphere over irregular terrain*, Systems Analysis Modelling Simulation 43, No 9, (2003), 1199-1212.
- A13. N. A. Kampanis, *A finite element method for the parabolic equation in aeroacoustics coupled with a nonlocal boundary condition for an inhomogeneous atmosphere*, J. Comp. Acoustics 13, No 4, 569-584, 2005.
- A14. E. T. Flouri, J. A. Ekaterinaris, N. A. Kampanis, *High-order accurate numerical schemes for the parabolic equation*, J. Comp. Acoustics 13, No 4, 613-639, 2005.
- A15. N. A. Kampanis, J. A. Ekaterinaris, *A staggered grid, high-order accurate method for the incompressible Navier-Stokes equations*, J. Comp. Physics 215, 589-613, 2006.
- A16. N. A. Kampanis, D. A. Mitsoudis, M. C. Dracopoulos, *Benchmarking two simulation models for underwater and atmospheric sound propagation*, Environmental Modelling & Software 22, 308-314, 2007.
- A17. F. Sturm, N. A. Kampanis, *Accurate treatment of a general sloping interface in a finite-element 3-D narrow-angle PE model*, J. Comp. Acoustics 15, No 3, (2007), 285-318.
- A18. G. A. Athanasoulis, K. A. Belibasakis, D. A. Mitsoudis, N. A. Kampanis, V. A. Dougalis, *Coupled mode and finite element approximations of underwater sound propagation problems in general stratified environments*, J. Comp. Acoustics 16, No 1, 83-116, 2008.
- A19. A. I. Delis, M. Kazolea, N. A. Kampanis, *A robust high-resolution finite volume scheme for the simulation of long waves over complex domains*, Int. J. Num. Meth. In Fluids 56, 419-452, 2008.
- A20. V. A. Dougalis, N. A. Kampanis, F. Sturm, G. E. Zouraris, *Numerical solution of the parabolic equation in range-dependent waveguides*, in Effective Computational Methods in Wave Propagation, N. A. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), Numerical Insights Series, CRC Press/ Taylor & Francis, 175-208, February 2008.
- A21. D. A. Mitsoudis, N. A. Kampanis, V. A. Dougalis, *Finite element discretization of the Helmholtz equation in an underwater acoustic waveguide*, in Effective Computational Methods in Wave Propagation, N. A. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), Numerical Insights Series, CRC Press/ Taylor & Francis, 113-134, February 2008.
- A22. N. A. Kampanis, V. A. Dougalis, J. A. Ekaterinaris (Eds.), *Effective Computational Methods in Wave Propagation*, Numerical Insights Series, CRC Press/ Taylor & Francis, February 2008.
- A23. Th. V. Karambas, N. A. Kampanis, A. Pantazis, *Application of numerical models in the region of Kokkinos Pirgos and their sensitivity to sea-bed level data*, in Beach Erosion Monitoring, E. Pranzini, L. Wetzel (Eds.), Nuova Grafica Fiorentina, Florence, May 2008, 195-205.

- A24. M. Papadakis, G. Papadokostakis, K. Stergiopoulos, N. Kampanis, P. Katonis, *Lumbar lordosis in osteoporosis and in osteoarthritis*, European Spine Journal 2009 18(5) 608-13.
- A25. G. A. Athanasoulis, K. A. Belibasakis, D. A. Mitsoudis, N. A. Kampanis, V. A. Dougalis, *ERRATUM Coupled mode and finite element approximations of underwater sound propagation problems in general stratified environments [J. Comp. Acoustics 16, No 1, 83-116, 2008]*, J. Comp. Acoustics 17, No 1, 109-112, 2009.
- A26. G. Alexandrakis, A. Karditsa, S. Poulos, G. Ghionis, N.A. Kampanis, (2009), AN ASSESSMENT OF THE VULNERABILITY TO EROSION OF THE COASTAL ZONE DUE TO A POTENTIAL RISE OF SEA LEVEL: THE CASE OF THE HELLENIC AEGEAN COAST, in *Environmental Systems*, [Ed. Achim Sydow], in *Encyclopedia of Life Support Systems (EOLSS)*, Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [<http://www.eolss.net>] [Retrieved August 17, 2009].
- A27. A. I. Delis, N. A. Kampanis, (2009), NUMERICAL FLOOD SIMULATION BY DEPTH AVERAGED FREE SURFACE FLOW MODELS, in *Environmental Systems*, [Ed. Achim Sydow], in *Encyclopedia of Life Support Systems (EOLSS)*, Developed under the Auspices of the UNESCO, Eolss Publishers, Oxford, UK, [<http://www.eolss.net>] [Retrieved August 17, 2009].
- A28. N. C. Papadakis, D. G. Christakis, G. N. Tzagarakis, G. I. Chlouverakis, N. A. Kampanis, K. N. Stergiopoulos, P. G. Katonis, *Gait Variability Measurements in Lumbar Spinal Stenosis Patients: Part A. Comparison with healthy subjects*, Physiol. Meas. 30 (2009) 1171-1186.
- A29. N. Papadakis, D. G. Christakis, G. N. Tzagarakis, G. I. Chlouverakis, N. A. Kampanis, K. N. Stergiopoulos, P. G. Katonis, *Gait Variability Measurements in Lumbar Spinal Stenosis Patients: Part B. Preoperative vs Postoperative Gait Variability*, Physiol. Meas. 30 (2009) 1187-1195.
- A30. S. D. Tsvigoulis, P. J. Papagelopoulos, N. Efstathopoulos, N. C. Papadakis, N. A. Kampanis, D. G. Christakis, P. G. Katonis. *Accelerometry for evaluation of gait pattern in healthy soccer athletes*, The Journal of International Medical Research 37 (2009) 1692-1700.
- A31. M. Papadakis, G. Papadokostakis, N. Kampanis, G. Sapkas, S. A. Papadakis and P. Katonis. *The Association of spinal osteoarthritis with lumbar lordosis*, BioMed Central Musculoskeletal Disorders 2010, 11:1 doi:10.1186/1471-2474-11-1.
- A32. G. N. Tzagarakis, S. D. Tsvigoulis, P. J. Papagelopoulos, D. S. Mastrokalos, N. C. Papadakis, N. A. Kampanis, G. M. Kontakis, P. K. Nikolaou, P. G. Katonis, *Influence of acute anterior cruciate ligament deficiency in gait variability*, The Journal of International Medical Research 38:2 (2010) 511-525.
- A33. S. D. Tsvigoulis, G. N. Tzagarakis, P. J. Papagelopoulos, D. Koulalis, V. I. Sakellariou, N. A. Kampanis, G. I. Chlouverakis, K. I. Alpantaki, P. K. Nikolaou, P. G. Katonis, *Preoperative versus postoperative gait variability in patients with acute anterior cruciate ligament deficiency*, The Journal of International Medical Research 39 (2011) 580-593.
- A34. P. T. Nastos, N. A. Kampanis, K. N. Giaouzaki, A. Matzarakis, *Environmental impacts on human health during a Saharan dust episode at Crete Island, Greece*, Meteorologische Zeitschrift **20** (2011) 517-529.
- A35. P. T. Nastos, K. Giaouzaki, N. A. Kampanis, A. Matzarakis, *Acute coronary syndromes related to bio-climate in a Mediterranean area. The case of Ierapetra, Crete Island, Greece*, Int. J. Environmental Health Research 23-1 (2013) 76-90, DOI:10.108009603123.2012.699031.
- A36. E. T. Flouri, N. Kalligeris, G. Alexandrakis, N. A. Kampanis, C. E. Synolakis, *Application of a finite difference computational model to the simulation of earthquake generated tsunamis*, Applied Numerical Mathematics 67 (2013) 111–125.
- A37. N. A. Kampanis, A. I. Delis, D. C. Antonopoulou, G. Kozyrakis, *A finite element discretization of the standard parabolic equation in generalized boundary fitting coordinates*, Applied Numerical Mathematics 67 (2013) 152–166.
- A38. G. Alexandrakis, G. Ghionis, S. Poulos, N. A. Kampanis, *18 GREECE*, in Coastal Erosion and Protection in Europe, E. Pranzini, A. Williams (Eds.), EARTHSCAN Ltd, London, UK, 2013, 355-377.
- A39. Th. Karambas, E. Koutandos, N. Kampanis, *Numerical simulation of wave induced morphology evolution*, Maritime Engineering 166 (2013) MA3-113.
- A40. V. Mandikas, E. Mathioudakis, E. Papadopoulou, N. Kampanis, *A High order accurate multigrid pressure correction algorithm for incompressible Navier-Stokes equations*, Lecture Notes in Engineering and Computer Science 2204 IAENG (2013) 74-79.
- A41. G. Alexandrakis, C. Manasakis, N. A. Kampanis, *Valuating the effects of beach erosion to tourism revenue. A management perspective*, Ocean & Coastal Management 111 (2015) 1-11.
- A42. S. D. Tsvigoulis, G. N. Tzagarakis, K. Alpantaki, E. Chronopoulos, P. G. Katonis, G. V. Kozyrakis, N. A. Kampanis, *Influence of body features in soccer athlete's gait variability*, Int. J. of Science and Engineering Technology 1 No 1 (2015) 20-28.

- A43. C. Spanakis, E. Mathioudakis, N. Kampanis, M. Tsiknakis, K. Marias, *A Proposed Method for Improving Rigid Registration Robustness*, International Journal of Computer Science and Information Security (IJCSIS) (2016) 14, 1-11 (19475500).
- A44. A. Louloudakis, P. Iniotakis, A. Kirkos, M. Simeonidi-Sideri, N. Kampanis, G. Alexandrakis, D. Rompogiannakis, *Blue Growth-Sustainable Development Policies in Local and Trans-Local Level. The case of coastal Municipalities of Hersonisos, Heraklion and Malevizi*, MARINE SPATIAL PLANNING TOPICS-Marine dimension of territorial cohesion-Marine spatial planning-Sustainable blue growth, KPITIKH Publishers, 2016, ISBN 9789605861124, p. 513.
- A45. G. V. Kozyrakis, A. I. Delis, G. Alexandrakis, N. A. Kampanis, *Numerical modeling of sediment transport applied to coastal morphodynamics*, Applied Numerical Mathematics 104 (2016) 30–46.
- A46. I. N. Monioudi, A. Karditsa, A. Chatzิปavlis, G. Alexandrakis, O. P. Andreadis, A. F. Velegrakis, S. E. Poulos, G. Ghionis, S. Petrakis, D. Sifnioti, T. Hasiotis, M. Lipakis, N. Kampanis, T. Karambas, E. Marinos, *Assessment of the vulnerability of the eastern Cretan beaches (Greece) to sea level rise*, Reg. Environ. Change (2016) 16:1951–1962.
- A47. G. Christodoulakis, K. Marias, G. Notas, N. Kampanis, S. Sfakianakis, *A Technological Platform to Support Education in Regional Anaesthesia with Patient-Specific Virtual Physiological Human (VPH)-Based Models*, XIV Mediterranean Conference on Medical and Biological Engineering and Computing, E. Kyriacou, S. Christofides, C. Pattichis (Eds), IFMBE Proceedings, Vol. 57. Springer-Cham, 2016.
- A48. G. V. Kozyrakis, A. I. Delis, N. A. Kampanis, *A finite difference solver for incompressible Navier-Stokes flows in complex domains*, Applied Numerical Mathematics 115 (2017) 275-298 [10.1016/j.apnum.2016.07.010].
- A49. E. N. Mathioudakis, V. G. Mandikas, G. V. Kozyrakis, N. A. Kampanis, J. A. Ekaterinaris, *Multigrid pressure correction techniques coupled with high order incompressible Navier-Stokes solvers*, Aerosp. Sci. Technol. 64 (2017) 85-101.
- A50. N. Rempis, G. Alexandrakis, G. Tsilimigkas, N. Kampanis, *Coastal use synergies and conflicts evaluation in the framework of spatial, development and sectoral policies*, Ocean and Coastal Management 166 (2018) 40-51.
- A51. G. Padeletti & HERACLES Consortium Staff, *Heritage Resilience Against Climate Events on Site - HERACLES Project: Mission and Vision*, A. Moropoulou, M. Korres, A. Georgopoulos, C. Spyarakos, Ch. Mouzakis (Eds.) Transdisciplinary Multispectral Modeling and Cooperation for the Preservation of Cultural Heritage, Communications in Computer and Information Science 961, 2019, 361-375.
- A52. G. Alexandrakis, G. V. Kozyrakis, N. Kampanis, *Interventions on Coastal Monuments Against Climatic Change*, A. Moropoulou, M. Korres, A. Georgopoulos, C. Spyarakos, Ch. Mouzakis (Eds.) Transdisciplinary Multispectral Modeling and Cooperation for the Preservation of Cultural Heritage, Communications in Computer and Information Science 961, 2019, 385-401.
- A53. C. Spanakis, E. Mathioudakis, N. Kampanis, M. Tsiknakis, K. Marias, *Machine Learning Regression in Evolutionary Algorithms and Image Registration*, IET Image Processing 13/5 (2019) 843-849.
- A54. C. Lorentzou, G. Kouvarakis, G. Kozyrakis, N. Kampanis, I. Trahanatzi, O. Fraidakis, N. Tzanakis, M. Kanakidou, P. Agouridakis, G. Notas, *Extreme Desert dust storms and COPD morbidity in the island of Crete*, International Journal of Chronic Obstructive Pulmonary Disease 14 (2019) 1763-1768.
- A55. G. Alexandrakis, C. Manasakis, N. A. Kampanis, *Economic and Societal Impacts on Cultural Heritage Sites, Resulting from Natural Effects and Climate Change*, Heritage 2019, 2, 279–305; doi:10.3390/heritage2010019.
- A56. G. Zodiatis, R. Lardner, K. Spanoudaki, S. Sofianos, H. Radhakrishnan, G. Krokos, I. Hoteit, N. Kampanis, T. Eremina Chapter xx. Oil spill modelling processes, O. Makarynsky (Ed) Marine Hydrocarbon Spill Assessments, Elsevier, to appear.

## B. Proceedings (with review)

- B1. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *Finite element methods for parabolic and wide-angle equations in Underwater Acoustics*, Proceedings of the ERCIM Workshop on numerical methods for linear and nonlinear problems in wave propagation, V. A. Dougalis (Ed.), FORTH, Heraklion, 1992, 112-122.
- B2. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On finite element methods for interface problems in underwater acoustics*, Proceedings, First National Congress on Congress on Computational Mechanics, D. E. Beskos (Ed.), University of Patras Press, 1992, vol. 2, 863-870.
- B3. G. D. Akrivis, V. A. Dougalis, N. A. Kampanis, *On finite element approximations of the wide-angle parabolic equation*, Advances in computer methods for partial differential equations VII, R. Vichnevetsky, D. Knight, G. Richter (Eds.), IMACS, 1992, 8-14.

- B4. V. A. Dougalis, N. A. Kampanis, E. A. Vavalis, *An efficient finite element method for the PE*, Proceedings of the 2<sup>nd</sup> European Conference on Underwater Acoustics, L. Bjorno (Ed.), European Commission 1994, vol. I, 363-368.
- B5. V. A. Dougalis, N. A. Kampanis, *Parabolic approximations in computational underwater acoustics*, ERCIM NEWS 22, July 1995, 18-19.
- B6. V. A. Dougalis, E. T. Flouri, N. A. Kampanis, J. S. Papadakis, *A 3D parabolic equation model with an impedance bottom boundary condition*, Proceedings of the 3<sup>rd</sup> European Conference on Underwater Acoustics, J. S. Papadakis (Ed.), FORTH--IACM, 1996, Vol. I, 231--236.
- B7. V. A. Dougalis, N. A. Kampanis, P. E. Tsompanopoulou, E. A. Vavalis, *Linear system solvers for finite element discretizations of the Helmholtz equation*, Proceedings of the 3<sup>rd</sup> European Conference on Underwater Acoustics, J. S. Papadakis (Ed.), FORTH--IACM, 1996, Vol. I, 279—28.
- B8. V. A. Dougalis, N. A. Kampanis, *Finite element methods coupled with nonlocal boundary conditions in computational underwater acoustics*, Proceedings of the Conference “1<sup>er</sup> Colloque sur la Modélisation Mathématique et Numérique dans les Sciences de l'Ingénieur”, Beirut, April 1997, Lebanese Scientific Research Reports 3 (1998), 293-306.
- B9. V. A. Dougalis, E. T. Flouri, N. A. Kampanis, *A Finite Element Method for the Helmholtz Equation in Underwater Acoustics*, Mathematical and Numerical Aspects of Wave Propagation, J. DeSanto (Ed.), SIAM, 1998, 585-587.
- B10. N. A. Kampanis, V. A. Dougalis, *On Finite Element Approximations the Helmholtz Equation in Axisymmetric Unbounded Waveguides with Interfaces*, Proceedings of the 5<sup>th</sup> National Congress on Mechanics, P. S. Theocaris, D. I. Fotiadis, C. V. Massalas (Eds.), University of Ioannina Press, 1998, Vol. II, 1009-1015.
- B11. V. A. Dougalis, N. A. Kampanis, M. I. Taroudakis, *Comparison of finite element and coupled mode solutions of the Helmholtz equation in underwater acoustics*, Proceedings of the 4<sup>th</sup> European Conference on Underwater Acoustics, A. Alippi, G. B. Cannelli (Eds.), CNR-IDAC, 1998, Vol. II, 649-654.
- B12. N. A. Kampanis, *Environmental modelling at IACM-FORTH: Aiming at future*, ERCIM NEWS 34, July 1998, 15-16.
- B13. V. A. Dougalis, N. A. Kampanis, *Finite Element Solution of the Helmholtz Equation in Axially Symmetric Layered Fluid Waveguides*, Theoretical and Computational Acoustics '97, Y.-C. Teng, E.-C. Shang, Y.-H. Pao, M. H. Schultz, A. D. Pierce (Eds.), World Scientific Publishing Co., 1999, 405-417.
- B14. D. A. Mitsoudis, N. A. Kampanis, V. A. Dougalis, *A finite element method for the Helmholtz equation in axially symmetric problems of underwater acoustics: error estimates and numerical experiments*, Proceedings of the Fifth Hellenic-European Conference on Computer Mathematics and its Applications, September 20-22, 2001 – Athens, Hellas, E. A. Lipitakis (Ed.), 2002, 530-533.
- B15. G. A. Athanassoulis, K. A. Belibassakis, V. A. Dougalis, N. A. Kampanis, D. A. Mitsoudis, *Simulation of underwater sound propagation in a general stratified environment by a coupled mode and a finite element method*, FORUM ACOUSTICUM SEVILLA 2002, Sevilla, Spain, 16-20 September 2002, UNW-01-001-IP.
- B16. V. A. Dougalis, N. A. Kampanis, D. A. Mitsoudis, *A finite element method for the approximate solution of acoustic wave propagation problems in a stratified sea environment*, Proceedings of the “AKOYΣTIKH 2002” Conference of the Hellenic Institute of Acoustics, Patras University, Greece, 2003, 75-80 (in Greek).
- B17. N. A. Kampanis, J. A. Ekaterinaris, *A staggered grid, high-order accurate method for incompressible viscous flow*, AIAA Paper 2004-432, 42<sup>nd</sup> AIAA Aerospace Science Meeting and Exhibit, Reno, Nevada, USA, 5-8 January 2004.
- B18. N. A. Kampanis, J. A. Ekaterinaris, *A high accuracy staggered grid method for incompressible flow*, Proceedings of the 5<sup>th</sup> GRACM International Congress on Computational Mechanics, G. Georgiou, P. Papanastasiou, M. Papadrakakis (Eds.), Limassol, Cyprus, 2005, Vol. 1, 745-752.
- B19. E. V. Koutandos, P. E. Prinos, N. A. Kampanis, *An experimental study of the wave induced pressures acting on a fixed semi-immersed structure of orthogonal cross section*, 10<sup>th</sup> National Congress of the Hellenic Hydrotechnological Association, Vol. B, 979-986, Xanthi 2006 (in Greek).
- B20. E. Koutandos, M. Kazolea, K. Barsos, N. A. Kampanis, *Managerial strategy for the coastal zone aiming to the sustainable development of coastal areas: The European project BEACHMED-e*, Integrated Water Resources Management, Hellenic Association for Water Resources Management, 143-150, Chania, Crete, Greece, June 2007 (in Greek).
- B21. Th. V. Karambas, E. V. Koutandos, N. A. Kampanis, *ALS-A coastal engineering model for wave propagation, wave structure interaction and bed morphology evolution*, Proceedings of the 32<sup>nd</sup> IAHR (International Association of Hydraulic Engineering and Research) Congress, Venice, Italy, 1-6 July 2007 (full paper available in CD-ROM).

- B22. E. V. Koutandos, P. E. Prinos, N. A. Kampanis, *A semi-empirical model for the interaction of regular waves with a fixed double floating breakwater*, Proceedings of Coastal Structures 2007, Venice, Italy, July 2-4 2007 (full paper available in CD-ROM).
- B23. B. Alonso, R. Duran, G. Ercilla, D. Casas, A. Bernabeu, F. Estrada, M. Ferran, M. Nuez, J. Serra, X. Valois, A. Lamberti, L. Martinelli, D. Merli, M. Piemontese, P.-L. Aminti, G. Barbieri, A. Battistini, L. Cappietti, C. D'Eliso, E. Mori, M.-G. Tecchi, A. Petaccia, A. Greco, A. Maistri, P. Sammarco, S. Camilletti, R. Certain, N. Kotsovinos, Ch. Koutitas, V. Hrisanthou, P. Angelidis, M. Andreadaki, A. Georgoulas, A. Samaras, A. Valsamidis, E. Koutandos, Th. Karambas, N. Kampanis, *Management of sand deposits intercepted by coastal and fluvial infrastructures in the Mediterranean areas*, 11<sup>e</sup> Congres Français de Sédimentologie, Caen 2007, Livre des résumés, Publ. ASF, n. 57, p. 358.
- B24. M. Papadakis, P. Katonis, K. Stergiopoulos, N. A. Kampanis, G. Papadokostakis, D. Christakis, C. Condaxakis, *Relation of osteoarthritis to lumbar lordosis*, INFO Orthopaedics & Traumatology 46 (2007) 3.
- B25. A. Pantazis, N. A. Kampanis, Th. V. Karambas, *Coastal erosion and environmental friendly protection methods: acts of the European program BEACHMEDe for the characterisation of the erosion in the Mediterranean*, 3<sup>rd</sup> Macedonian Environmental Congress, Thessalonica, 14-17 March 2008 (full paper available in CD-ROM).
- B26. S. Tsivgoulis, N. Papadakis, C. Contaxakis, N. Kampanis, D. Christakis, P. Katonis, *Study of the musculoskeletal system of athletes with accelerometer*, 9<sup>th</sup> International Congress of Sports Medicine Association of Greece – 7<sup>th</sup> - Cypriot Congress of Sports Medicine, Athens, 27-30 March 2008/ Αθλητιατρική, Vol. 3, Suppl. 1, March 2008, p.18, (in Greek).
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- C29. G.N. Tzagarakis, S.D. Tsigoulis, N.A. Kampanis, P.G. Katonis, G.I. Chlouverakis, *Development and evaluation of an entropy index as a gait variability measure in orthopaedic patients*, Book of Abstracts of the 6<sup>th</sup> International Conference of the Eastern Mediterranean Region International Biometric Society, Hersonissos, Crete, Greece, 8-11 May 2011, p.101.
- C30. G. Tzagarakis, S. Tsigoulis, N. Kampanis, H. Papoutsopoulou, P. Katonis, *Development and evaluation of a new and innovator method for lumbar spinal stenosis*, 67<sup>o</sup> Panhellenic Orthopaedic Congress, Athens, 12-16 October 2011.
- C31. P. T. Nastos, A. Bleta, G. Notas, N. A. Kampanis, *Saharan dust outbreaks associated with incidence of respiratory diseases in Crete Island, Greece*, 12<sup>th</sup> Annual Meeting/ 9<sup>th</sup> European Conference on Applied Climatology, Lodz Poland, 10-14 Sept. 2012.
- C32. G. Alexandrakakis, C. Manasakis, N. A. Kampanis, *Estimation of the climatic change impact to beach tourism using joined environmental and econometric methods*, International Conference on Tourism ICOT 2013, Limassol, Cyprus, 5-8 June 2013.
- C33. G. Kozyrakis, E. Mathioudakis, V. Mandikas, N. Kampanis, *A fast and reliable solver for incompressible Navier-Stokes flows applied in complex coastal domains*, International Conference on Mathematical Modeling in Physical Sciences, Prague, Czech Republic, September 1-5, 2013.
- C34. G. Kozyrakis, A. Delis, G. Alexandrakakis, N. Kampanis, *Numerical simulation of sediment transport phenomena applied to nearshore morphodynamics*, International Conference on Mathematical Modeling in Physical Sciences, Prague, Czech Republic, September 1-5, 2013.
- C35. K. Alpantaki, G. Kozyrakis, N. A. Kampanis, A. Kouroubali, K. Marias, *Falls in Elderly. Falls and fracture prevention*, e-Health Forum, Athens 12-14 May 2014.
- C36. A. G. Bleta, P. T. Nastos, P. Agouridakis, G. Notas, N. A. Kampanis, *Human thermal bioclimatic conditions associated with respiratory diseases in Crete Island, Greece*, 14<sup>th</sup> EMS & 10<sup>th</sup> ECAC, 06-10/10/2014, Prague, Czech Republic.
- C37. K. Alpantaki, C. Koutserimpas, A. Loutsidi, M. Liontiris, G. Kozyrakis, A. Kouroubali, N. Kampanis, G. Kontakis, *Gender and age differences for fall related fractures among elderly*, British Geriatrics Society 15<sup>th</sup> International Falls & Postural Stability Conference, Manchester, 8 September 2014.
- C38. A. Louloudakis, P. Iniotakis, A. Kirkos, M. Simeonidi-Sideri, N. Kampanis, G. Alexandrakakis, D. Rompogiannakis, *Blue Growth: Sustainable Development Policies in Local and Trans-Local Level. The case of coastal Municipalities of Hersonisos, Heraklion and Malevizi*, BLUE GROWTH, Piraeus, 10-12 October 2014.
- C39. N. Tsoumani, K. Giaouzaki, M. Antona, N. Kampanis, G. Kochiadakis, G. Notas, *Patients behavior after myocardial infarction to the prospect of remote monitoring of their biosignals and online support for adjustment of risk factors to prevent recurrence of their disease*, 41<sup>st</sup> Panhellenic Medical Congress, Athens 10-13 June 2015.
- C40. G. Christodoulakis, K. Marias, G. Notas, N. Kampanis, S. Sfakianakis, *A technological platform to support education in Regional Anaesthesia with patient-specific virtual physiological human (VPH)-based models*, [MEDICON2016](#), 31/03-2/04/2016 PAPHOS, CYPRUS.
- C41. G. Alexandrakakis, N. Kampanis, P.Pouli, V. Sythiakakis, *Climate changes impact of Cultural heritage sites. Risk management and mitigation*, EMRS spring meeting 2016, 2-6/05/2016 Lille FR.
- C42. N. Rempis, G. Alexandrakakis, G. Tsilimigkas, N. Kampanis, *Coastal uses in relation with maritime spatial planning in the central northern coast of Crete*, International Conference Maritime Spatial Planning, Ecosystem Approach and Supporting Information Systems (MaPSIS), Las Palmas de Gran Canaria, 24-28 April 2017.

- C43. G. Alexandrakis, N. Rempis, N. A. Kampanis, *The role of maintenance of cultural heritage sites in urban regeneration*, Smart-Blue City 2<sup>nd</sup> Euro-Mediterranean Conference & Exhibition Heraklion, Crete, 28-29 September 2017.
- C44. G. Zodiatis, H. Radhakrishnan, G. N. Galanis, A. Nikolaidis, G. Emmanouil, G. Nikolaidis, R. Lardner, S. Stylianou, M. Nikolaidis, S. S. Sofianos, V. Vervatis, G. B. Kallos, G. Kozyrakis, N. Kampanis, *Downscaling the Copernicus marine service in the Eastern Mediterranean*, 2018 Ocean Sciences Meeting, 11-16/02/2018 Portland, Oregon, US.
- C45. G. Notas, Ch. Lorentzou, G. Kouvarakis, G. V. Kozyrakis, N. A. Kampanis, M. Kanakidou, P. Agouridakis, *Effect of extreme desert dust particles outbreaks in the island of Crete on emergency department overloading*, EUSEM 2018, Glasgow 8-12/09/2018.
- C46. G. Alexandrakis, G. V. Kozyrakis, N. Kampanis, *Interventions on coastal monuments against climatic change*, 1<sup>st</sup> International Conference on Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage, 10-13/10/2018, Athens, Greece.
- C47. G. Alexandrakis, C. Manasakis, N. A. Kampanis, *Natural hazards socio Economic impact on cultural heritage sites*, 1<sup>st</sup> International Conference on Transdisciplinary Multispectral Modelling and Cooperation for the Preservation of Cultural Heritage, 10-13/10/2018, Athens, Greece
- C48. G. Alexandrakis, N. Kampanis, P. Pouli, A. Psaroudaki, *Climate changes impact, Risk management and mitigation of Coastal Cultural heritage sites*, E-MRS Spring Meeting and Exhibit, 18-22/6/2018, Strasbourg, FR.
- C49. G. El Serafy, G. Sylaios, A. Silva, N. Kampanis, L. Beguery, M. Sutton, A. Schuster, L. Friedrich, L. Weatherdon, D. Cebrian-Mencherero, S. Keeble, *ODYSSEA-Operating a Network of Integrated Observatory Systems in the Mediterranean Sea*, OCEAN OBS'2019, 16-20/09/2019, Hawaii, US.
- C50. K. Zachopoulos, N. Kokkos, M. Zoidou, G. Zodiatis, G. Sylaios, G. Alexandrakis, N. Kampanis, *Assessment of coastal erosion trends in four study sites using satellite imagery*, 42<sup>nd</sup> CIESM Congress, 7-11/10/2019, PT.

### Teaching Experience

Functional Analysis (Fall 1986), Calculus (Fall 1987, Fall 1990), Mathematical Models of Classical Physics (Spring 1990), Numerical Analysis (Spring 1991), as Teaching assistant, at the Mathematics Department, University of Crete. An introduction to UNIX and FORTRAN (Fall 2001), Applied Mathematics Department, University of Crete. Numerical Analysis (Graduate course, Fall 1993), Computational Mathematics (Spring 1994), Numerical Analysis (Spring 2005), Introduction to Programming (Fall 2005), Department of Science, Technical University of Crete. Computational Fluid Mechanics (Graduate course, Summer 2014), Coastal Engineering (Graduate reading course-Spring 2015), Mathematics Department, University of Crete.

### Students training

P. Stoupas, *Mesh generation in 2D: the modules APNOXX, TRNOXX of the MODULEF library*, 1997 (in Greek).  
 I. Stratakis, *Mesh generation in 3D using the MODULEF library*, Spring 1998 (in Greek).  
 M. Lapidakis, *Iterative solution of complex symmetric linear systems*, Spring 1999, (in Greek).  
 K. Fisarakis, *Use of the GMRES iterative method for solution of indefinite linear systems*, Fall 2004 (in Greek).  
 Th. Kalatzis, *Numerical solution of the shallow water equations with finite difference schemes*, Fall 2010 (in Greek).  
 A. Talidou, *Acoustic propagation in a turbulent atmosphere using the parabolic approximation of the Helmholtz equation*, Spring 2012 (in Greek).  
 K. Kotsiopoulos, *Development of finite element code for elliptic problems in 1D and 2D*, Summer 2012 (in Greek).  
 K. Spanakis, *Numerical modeling of tumor growth*, Summer 2012 (in Greek).  
 G. Ioannidis, *CUDA for graphical process units and numerical programming*, Spring 2013.  
 N. Pachakis, *Hydrodynamical models with stochasticity*, Fall 2013.  
 AnnaMaria Chalabalaki, *Use of econometric models to assess climatic change impact to coastal tourism*, Fall 2013.  
 A. Prasiris, *Construction of semi analytical solutions for the 1D saturated ground water flow equations using Laplace and Fourier transforms*, Summer 2014.  
 L. Salpangarova, *Stochastic methods for analyzing ground water level*, Summer 2014.  
 D. Hobitaki, *Stochastic models of medical image analysis*, Summer 2014.  
 E. Stefa, *Environmental studies for the defense against erosion and the protection of coastal zone*, Summer 2014.  
 K. Aresti, *Processing of geospatial econometric data*, Spring 2015.  
 M. Nikolidakis, *Coastal engineering models*, Summer 2015.  
 Ch. Pervolianakis, *Coastal engineering models*, Summer 2015.

- I. Keramea, Water resources management models, Spring 2017.
- E. Klangou, Use of Copernicus service for feeding data to hydrodynamical models, Winter 2019.
- M. Choudetsanakis, Familiarization with hydrodynamical and wave models, Summer 2019.
- I. Vassilopoulou, Development of statistical models for the validation of field data, Winter 2020.

### Diploma Theses

- M. Lapidakis, *Application of the numerical simulation of incompressible flows to the study of blood flow in the arteries*, Diploma Thesis, Mathematics Department, University of Crete, June 2000 (in Greek).
- K. Fotiadou, *Study of the intra annual variation of air temperature using spectral analysis of the corresponding time series*, Department of Applied Mathematics, University of Crete, June 2011 (in Greek).
- A. Talidou, *Polynomial chaos and stochastic finite elements*, University of Crete, Fall semester 2012.
- K. Spanakis, *Numerical modeling of tumor growth using level set methods*, University of Crete, December 2013.
- G. Ioannidis, *Information theory and its application to image alignment*, University of Crete, June 2013.

### Master Theses

1. L. Karamitros, *Construction of spatial data for a mesh generator using a GIS*, Master Thesis, Mathematics Department, University of Athens, September 2000 (in Greek), supervisor.
2. I. Touloupoulos, *Discretization of reaction-diffusion equations using the finite element method. Application to ground water pollution models*, Master Thesis, Mathematics Department, University of Athens, June 2002 (in Greek), supervisor.
3. M. Kazolea, *Numerical simulation of generation and propagation of long waves*, Master Thesis, Mathematics Dept., Technical University of Crete, September 2006 (in Greek), member of the advisory committee.
4. A. Anagnostopoulou, *Influence of weather variations on the physico-pathological diseases in Athens*, Master Thesis, Dept. of Geology and Geoenvironment, University of Athens, June 2009 (in Greek), member of the advisory committee.
5. K. Spanakis, *An extended method of image registration*, Master Thesis, Mathematics Dept., Technical University of Crete, September 2014, member of the advisory committee.
6. G. Ioannidis, *Diffusion Magnetic Resonance Imaging Techniques-Applications in the Brain*, Master Thesis, Mathematics Department, University of Crete, Spring 2015, supervisor.
7. V. Finikianaki, *Morphodynamic analysis of beach zones using numerical models and field data*, Master Thesis, Mathematics Department, University of Crete, Spring 2015, supervisor.
8. N. Pachakis, *Mathematical simulation of oil spills dispersion in the coastal zone*, Master Thesis, Mathematics Department, University of Crete, Spring 2015, supervisor.
9. A. Parasiris, *Groundwater monitoring networks management using Genetic Algorithms*, Mathematics Department, University of Crete, September 2016, supervisor.
10. E. Gaitani, *Numerical Forecasting of Climate Change for Future Coastal Tourism Management*, School of Production Engr & Management, Technical University of Crete, July 2017, member of the advisory committee.
11. Ch. Papavasiliou, *Implementaton of a computational model for the estimation of climatic index with application to tourism*, Mathematics Department, University of Crete, March 2020, supervisor.

### PhD Thesis committees

1. E. Koutantos, *Numerical and experimental study of the hydrodynamics of floating breakwater structures*, Department of Civil Engineering, 'Aristotles' University of Thessalonica, October 2003, member of the examination committee.
2. I. Touloupoulos, *Numerical solution of hyperbolic differential equations using DGM*, Mathematics Dept., University of Athens, May 2009, member of the 3member advisory committee.
3. M. Papadakis, *Lumbar curvature with respect to osteoporosis and osteoarthritis*, Department of Medicine, University of Crete, July 2010, member of the 3member advisory committee.
4. G. Tzagarakis, *Development and evaluation of a diagnostic method in orthopedics based on measurements of body movement parameters*, Department of Medicine, University of Crete, July 2010, member of the 3member advisory committee.

5. S. Tsigoulis, *Measurements and analysis of kinisiometric characteristics for the evaluation of the musculoskeletal system of athletes*, Department of Medicine, University of Crete, January 2011, member of the 3member advisory committee.
6. G. Alexandrakis, *Development of a beach vulnerability index (BVI) for the assessment of beach zone erosion in Greece*, Department of Geology and Geoenvironment, National “Kapodistrias” University of Athens, July 2011, member of the examination committee.
7. M. Kazolea, *Mathematical and computational modeling of the generation and propagation of waves in sea and coastal environment*, Department of Environmental Engineering, Technical University of Crete, Spring 2013, member of the 3member advisory committee.
8. A. Dimitriades, *Variations of the intervertebral disc height of runners and additional impairments of the intervertebral space after an hourly exercise*, Department of Medicine, University of Crete, June 2013, member of the examination committee.
9. Ch. Makris, *Numerical simulation of coastal waves processes using the smooth particle hydrodynamics (SPH) method*, Department of Civil Engineering, Polytechnic School, ‘Aristotles’ University of Thessalonica, June 2014, member of the examination committee.
10. A. Bleta, *Study of the bioclimatic parameters and air pollution to public health in Crete. The role of the climate change*, Department of Geology and Geoenvironment, National “Kapodistrias” University of Athens, December 2014, member of the 3member advisory committee.
11. A. Topalidou, *Application of a non-invasive technique (spinal mouse) to the post operational estimation of the condition of the spine*, Department of Medicine, University of Crete, April 2015, member of the examination committee.
12. G. Kozirakis, *Numerical simulation in 3D of sea waves and sediment transport*, Department of Maritime Sciences, Aegean University, Summer 2016, member of the 3member advisory committee.
13. V. Mandikas, *Multigrid methods and grid computing for the solution of linear systems of the semi implicit time stepping of incompressible flows*, Department of Sciences, Technical University of Crete, Summer 2017, member of the 3member advisory committee.
14. K. Spanakis, *Numerical methods for medical imaging*, Technical University of Crete, member of the 3member advisory committee, in preparation.
15. N. Pahakis, *High resolution methods for the Navier-Stokes equations in general domains*, School of Production Engr & Management, Technical University of Crete, member of the 3member advisory committee, in preparation.
16. E. Tsagarakis, *Physical processes and anthropogenic interventions in the formation of coastal hydrodynamics, morphodynamics and morphological evolution of the coast. Application in Crete*, Department of Geology and Geoenvironment, National “Kapodistrias” University of Athens, July, member of the examination committee, under preparation.
17. V. Metheniti, *The effect of the visual characteristics of the marine surface layer on the dynamics of the ocean (combining observations and models in the Cretan Sea)*, Department of Physics, National “Kapodistrias” University of Athens, July, member of the examination committee, under preparation.

### **Funded Projects**

1. PROMODE Ocean acoustic propagation models, European Union, MAST-2 program, 1993-96.
2. Wave propagation models in underwater acoustics-forward and inverse problem, GSRT-Hellas, Cooperations-89 program, 1992-97.
3. Finite element solution of the Helmholtz equation-applications in underwater acoustics, GSRT-Hellas, PENED-94, 1996-97.
4. NUSE Numerical methods and information systems for preventing eutrophication in water, French-Greek Integrated Actions PLATON 1998, 1998-99.
5. CruCID Modélisation Numérique des Crues via le Calcul Intensif Distribue, EU DGIII ESPRIT/INCO-DC, 1998-2000.
6. SIMO An Information system for the numerical simulation and forecasting of floods, French-Greek Integrated Actions PLATON 1999, 2000-01, Principal Investigator.
7. Environmental friendly treatment of the coasts using floating barriers, GSRT-Hellas, PENED-01, 2003-2005.
8. PREVENT-EUTROPHICATION Prevention of eutrophication via aeration, French-Greek Integrated Actions PLATON 2002, 2003-04, € 13860, Principal Investigator.
9. Parabolic models for 3D acoustic propagation in the sea, French-Greek Integrated Actions PLATON 2002, 2003-04.

10. OMATI A WEB integrated information system for the numerical simulation of floods, French-Greek Integrated Actions PLATON 2004, 2005-06, € 12400, Principal Investigator.
11. BEACHMED-e La gestion stratégique de la défense des littoraux pour un développement soutenable des zones côtières de la Méditerranée, INTERREG IIIC Zone Sud, 2006-2008, € 245000, Principal Investigator.
12. Development of new non-invasive methods for estimation of musculoskeletal diseases. Application in orthopaedic, sports and rehabilitation, GSRT-Hellas, PENED-03, 2006-2008, € 207000, Principal Investigator.
13. Bioclimatic conditions and air pollution related to human health (cardiovascular and respiratory diseases) in Heraklion, Crete, IKYDA 2009, 2009-10, €10000, Principal Investigator.
14. POSEIDON: Earthquake followed by tsunami in Mediterranean Sea, DG Environment, EU, 6/2009-5/2011, €100000, Principal Investigator.
15. TRANSFER: Tsunami Risk and Strategies for the European Region, STREP, EU FP6, 2006-2008, participation.
16. AKTAIA: Development of innovative methods for the quantification and management of the climate change impact on the eastern coast of Crete island (711-12/11/2009), GSRT-Hellas cooperation program, 1/2011-1/2014, € 151000, Principal Investigator.
17. Mathematical and numerical modeling of the generation, and propagation of waves off shore and near shore, (PI Prof. C. Synolakis, Environmental Engineering Department Technical University of Crete), HERAKLITOS II program, Ministry of Education-Lifelong learning & Religious affairs, member of the 3member advisory committee of the PhD dissertation.
18. Study of the influence of bioclimatic conditions and particulate matter air pollution to public health in Crete Island, (PI Assoc. Prof. P. Nastos, Department of Geology and Geoenvironment, National “Kapodistrias” University of Athens), HERAKLITOS II program, Ministry of Education-Lifelong learning & Religious affairs, member of the 3member advisory committee of the PhD dissertation.
19. Bioclimatic conditions and air pollution related to human health (cardiovascular and respiratory diseases) in Heraklion, Crete, IKYDA 2009, extension for 2011, € 5000, Principal Investigator.
20. Estimation of the vulnerability of coastal areas to climatic change and sea level rise. A pilot study for Crete Island, IKYDA 2013, 2013-14, €10000, Principal Investigator.
21. CLIMATOURISM The influence of climatic change on the coastal environment in relation with tourist planning, PostDoc fellowships 2010, Ministry of Education, 2012-14, € 150000, Principal Investigator.
22. RASIMAS Regional Anaesthesia Simulator (RASim) and Assistant (RAAs), FP7-ICT-2013-10, 11/2013-31/10/2016, € 300000, participation.
23. KPHIIIΣ Environment – Hazards, Task 4.3. Resilience of coastal environment to climatic change with application to economic activities & Task 4.4. Advanced telecommunications and crowd sourcing for civil protection applications, GSRT, 8/2013 – 8/2015, € 52000, Principal Investigator.
24. KPHIIIΣ Quality of Life, Task 2. Hospitalization protocols, GSRT, 2014-2015, € 53600, Principal Investigator.
25. A simulation-optimization model for assessing the best practices for the protection of surface water and groundwater in the coastal zone, IKY Fellowships of Excellence for Postdoctoral Studies - SIEMENS Program, 10/2013 – 9/2015, € 39000, participation.
26. Development of a technological application to optimize the design of coastal infrastructure and engineering protection solutions through a risk assessment of the effects of climate change, IKY Fellowships of Excellence for Postdoctoral Studies - SIEMENS Program, 2015 –16, € 25000, participation.
27. DECATASTROPHZE-Use of SDSS and MCDA to prepare for disasters or plan for multiple hazards, EU ECHO 2015, 2016-17, € 150000, Principal Investigator.
28. HERACLES-HERitage Resilience Against CLimate Events on Site, H2020-DRS-11-2015, 2017-19, € 350000, Principal Investigator.
29. ODYSSEA-Operating a network of integrated observatory systems in the Mediterranean Sea, H2020-BG-12-2016, 2017-2019, € 225000, Principal Investigator.
30. KPHIIIΣ II Environment, GSRT, 2018-20, € 50000, Principal Investigator.
31. KPHIIIΣ II Quality of Life, GSRT, 2018-20, € 50000, Principal Investigator.
32. E-RIHS: The European Research Infrastructure for Heritage Science Preparatory Phase, INFRADEV-02-2016, 2017-19, € 5600, participation.
33. HELLAS-CH/IACM, Infrastructure, 2017-19, € 114745, participation.
34. SMARTOURISM Meteorological, bioclimatic and oceanographic information display system for tourist applications, RIS3Crete 1.b.1\_Demonstration projects 2017, 2019-2022, € 200000, Principal investigator.
35. TECTONIC TEchnological Consortium TO develop sustainAbllity of underwater Cultural heritage, H2020-MSCA-RISE-2019, 2020-22, € 46000, συμμετοχή.

## Services supervised through the Lab

1. PROGRAM AGREEMENT: Study on the effective management of erosion, the protection and recasting of the coastline, east of the “Marina” site of Rethymnon, Municipality of Rethymnon-FORTH, 2011, € 35000.
2. PROGRAM AGREEMENT: Study of the environmental effects of the coastal protection and restoration project east of the “MARINA” in Rethymnon port, Municipality Rethymnon-FORTH, 2012, € 10000.
3. PROGRAM AGREEMENT: Study for the effective management of the erosion problem, the protection and recasting of the coastline and the reduction of incoming wave energy, in the northern beach of Plaka, Region of Crete-FORTH, 2013-2014, € 45000.
4. PROGRAM AGREEMENT: Study for the effective management of the erosion problem, the protection and recasting of the coastline and the reduction of incoming wave energy, in the Sitia city beachfront, and Makri Gialos, Municipality of Sitia-FORTH, 2014-2015, € 75000.
5. PROGRAM AGREEMENT: Study for the effective management of the erosion problem, the protection and recasting of the coastline in the Driros area beachfront, Region of Crete-FORTH, 2015, € 45000.
6. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach of the hotels Vandaris Palace, Vandaris Beach and the land between the two hotels, in Kavros Georgiupolis, Municipality Vamos, Chania Prefecture, VANDARIS SA-FORTH, 2015.
7. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach of the hotel ORPHEAS, in Kavros Georgiupolis, Municipality Vamos, Chania Prefecture, ENALIA SA-FORTH, 2015.
8. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach of the hotels MYTHOS and ELIROS, in Kavros Georgiupolis, Municipality Vamos, Chania Prefecture, VANDARAKIS SA-FORTH, 2015.
9. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach of the hotel DELFINAS, in Kavros Georgiupolis, Municipality Vamos, Chania Prefecture, DELFINAS BEACH SA-FORTH, 2015.
10. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach in the area KOUMBES (within the civil planning area) of Rethymnon, AGRICULTURAL COOPERATIVE OF RETHYMNON-FORTH, 2015.
11. PROGRAM AGREEMENT: Study of the effects of extreme weather phenomena and climatic change on the Venetian Walls and the west coastal area of Iraklion, Municipality of Iraklion-FORTH, 2015-16, € 60000.
12. PROGRAM AGREEMENT: Research project investigating coastal erosion and siltation problems of the commercial port of Rethymnon city, Municipal Port Authority of Rethymnon-FORTH, 2016-17, € 25000.
13. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach east of Peratikos River in Georgiupolis area, Municipality Vamos, Chania Prefecture, Pavlos Votzakis-FORTH, 2016.
14. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach in front of the hotel CRETA BEACH, in Ammoudara, Municipality of Malevizi, Heraklion Prefecture, IOANNIS THEODORAKIS SA-FORTH, 2016.
15. PRIVATE AGREEMENT: Research project for the optimization of the management of the water system supply of Municipal Water Supply and Irrigation Corporation of Malevizi, Heraklion Prefecture, Municipal Water Supply and Irrigation Corporation of Malevizi-FORTH, 2016, € 25000.
16. AGREEMENT: Investigation of the impact of extreme wave effects on the port breakwater (18 Angl. Square to Koule Fortress) and evaluation of its shielding, Port Authority of Heraklion-FORTH, 2018, € 25000.
17. PROGRAM AGREEMENT: Development of a marine spatial plan for the bay of Elounda, Lasithi, Region of Crete-FORTH, 2018-19, € 43400.
18. PRIVATE AGREEMENT: Study on redefining the old and the new foreshore of the beach in front of the hotel CRETA BEACH, in Ammoudara, Municipality of Malevizi, Heraklion Prefecture-Phase 2<sup>nd</sup>, IOANNIS THEODORAKIS SA-FORTH, 2017.
19. AGREEMENT: HERMES A HarmonizEd fRamework to Mitigate coastal EroSion promoting ICZM protocol implementation, Interreg V-B Balkan-Mediterranean 2014-20 1<sup>st</sup> call, ORION Institute of development & sustainability Cyprus-FORTH, 2018-19, € 42500.
20. AGREEMENT: COASTAL CRETE A High- resolution COASTAL Forecasting System for CRETE Island, 110-DEM5-L3, CMEMS & MERCATOR OCEAN, 2019-22, € 51000.
21. PROGRAM AGREEMENT: Study for the effective management of the erosion problem of the coastline in the Galigalia district, of the Ierapetra municipality, Region of Crete-FORTH, 2018-2019, € 43400